SECTION 13200
FIBERGLASS WEIRS AND SCUM BAFFLES

Revision 1.0 — April 2026

PROJECT TEMPLATE: This document is provided as a specification template. Contact RPS Engineering at 847-931-1950 to work with our team on completing project-specific requirements and specifications for your facility.

PART 1 — GENERAL

1.1 DESCRIPTION

A. Provide fiberglass weirs, baffles, and appurtenances for wastewater treatment clarifier applications as indicated and specified. All materials shall be suitable for continuous exposure to hydrogen sulfide (H2S) gas and other corrosive byproducts of wastewater treatment environments.

B. Weirs and scum baffles shall be the product of one manufacturer.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM) Publications:

1. ASTM D256 — Test Methods for Impact Resistance of Plastics and Electrical Insulating Materials.
2. ASTM D570 — Test Method for Water Absorption of Plastics.
3. ASTM D638 — Test Method for Tensile Properties of Plastics.
4. ASTM D695 — Test Method for Compressive Strength of Plastics.
5. ASTM D790 — Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

B. ANSI/AWWA F102 — Fiberglass-Reinforced Plastic Mortar Pressure Pipe.

C. ASCE 7-22 — Minimum Design Loads and Associated Criteria for Buildings and Other Structures.

D. International Building Code (IBC) 2021.

1.3 SUBMITTALS

A. Shop Drawings: Submit the following in accordance with submittal procedures:

1. Detailed and certified shop and installation drawings.
    a. Equipment Manufacturer shall submit electronic files of the proposed equipment in the capacity, size, and arrangement as indicated and specified.
    b. Electronic files shall conform to the following minimum requirements:
        (1) Files shall be AutoCAD latest version.
        (2) Files shall be submitted as part of the Shop Drawing review by the Engineer.

(3) Drawings shall include plan views, sectional views, title block, and details of all related items. Where certain information is proprietary and omitted, provide a statement indicating that the information is proprietary.

(4) Files shall include tag names, parts list (identifying each component), dimensions, and connection sizes.

(5) Files shall be drawn to scale.

(6) Drawings shall be in conformance with all other requirements as specified herein.

2. Manufacturer's specifications, catalog data, and illustrations.
3. Certified setting plan, with tolerances, for anchor bolts.
4. Recommendations for short and long-term storage.
5. Shop drawing data for accessory items.
6. Manufacturer's literature as needed to supplement certified data.
7. Shop inspection reports.
8. Special tools.

1.4 DELIVERY, STORAGE AND HANDLING

A. Shipping:

1. Weir and baffle plates shall be tightly banded to skids or suitably packaged to prevent damage during handling and shipping. Fiberboard or plastic corners shall be placed at the edges under bands to prevent damage caused by bands cutting into the plastic material. Support brackets shall be placed in wooden boxes or fiberboard cartons of sufficient strength to prevent damage during handling and shipping.

1.5 SEISMIC DESIGN REQUIREMENTS

A. The Contractor shall conform to the seismic design requirements for this project and for the work of this specification section.

B. Provide all equipment bases, anchorage, supports, and foundations designed in accordance with the seismic requirements indicated and specified per ASCE 7-22 and IBC 2021.

C. Additionally, provide a Manufacturer's Equipment Certification form — a certification for all equipment signed by a registered structural engineer licensed in the state where weirs and baffles will be installed, stating that computations were performed and that all components have been sized for the seismic forces specified and indicated.

1.6 QUALITY CONTROL

A. Weirs and baffles shall be the product of one manufacturer.

B. Weirs and baffles shall be manufacturer's standard cataloged product, modified to provide compliance with the drawings, specifications, and the service conditions specified and indicated.

C. Shop tests as specified.

D. Warranty: Provide a one (1) year warranty for material and workmanship defects.

E. Coordination: Weirs and baffles manufacturers shall coordinate the fabrication of the weirs and baffles with the contractor and clarifier manufacturer regarding the clarifier mechanism, scum collection, and launder and channel configurations.

PART 2 — PRODUCTS

2.1 MANUFACTURERS

A. RPS Engineering
   1. 1300 Crispin Drive, Elgin, IL 60123
   2. Phone: 847-931-1950 | Fax: 847-931-4274
   3. www.rpsengineering.com
   4. Woman-Owned Business

2.2 MATERIALS

A. Resin: Provide commercial-grade polyester or vinyl thermosetting resin suitable for the service conditions, including continuous exposure to hydrogen sulfide (H2S) gas and other corrosive byproducts of wastewater treatment. The resin shall contain no fiber or additives except as follows:
   1. A thixotropic agent may be added for viscosity control.
   2. Pigments shall be light stable, not soluble in water, and compatible with the resin. Typical color will be blue green.

B. A synthetic surface veil fabric shall encase the glass reinforcement.

C. Ultraviolet Resistance: Provide ultraviolet stabilizers in all laminates exposed to ultraviolet light, whether in the form of pigmentation or ultraviolet absorbers.

D. Each weir and baffle shall be matching die molded or manufactured by the pultrusion process utilizing polyester resin (as required). A synthetic surface veil shall be the outermost layer covering the exterior surface.

E. Weirs and baffles shall possess the following minimum coupon properties:

Property	ASTM Method	Units	Value (Imperial)	Value (SI)
Tensile Strength	ASTM D638	PSI / kPa	45,000	3.10×10^4
Flexural Strength	ASTM D790	PSI / kPa	32,000	2.2×10^4
Flexural Modulus	ASTM D790	PSI / kPa	1.69×10^6	1.03×10^7
Compressive Strength	ASTM D695	PSI / kPa	50,000	3.44×10^8
IZOD Impact Strength	ASTM D256	ft. lbs./in. / J/M	25	1,334

F. Hardware: Type 316 stainless steel. All hardware to be provided by the weir and scum baffle manufacturer.

PART 3 — EXECUTION

3.1 INSTALLATION

A. Install all items in accordance with the manufacturer's printed instructions, as indicated and specified.

3.2 ERECTION

A. Set items accurately and secure properly in place.

B. Install weirs and scum baffles with an adequate allowance for thermal expansion and contraction at the joints.

C. Accurately set embedded items using templates.

D. Set weir and scum baffle crests level to elevations indicated or directed. Fill each tank with plant influent and adjust plates for equal overflow levels.

END OF SECTION 13200